Hindu Epics such as Mahabharata have often been described as myths. “On the same day that Krishna departed from the earth the powerful dark-bodied Kali Age descended. The oceans rose and submerged the whole of Dwaraka.“ According to Vishnu Purana - Dwaraka was submerged by the sea right after the death of Lord Krishna. This was regarded as a grandiose metaphor, part of a story filled with great myths. In the early eighties an important archaeological site was found in India, at Dwaraka, the site of the legendary city of Lord Krishna. Now, it is discovered that the whole coast of western India sank by nearly 40 feet around 1500 B.C. E. Why is that the rediscovery of Dwaraka has not attracted the same degree of attention in the West, as that of ancient Troy by Heinrich Schliemann?

The first clear historical record is dated 574 A.D. and occurs in the Palitana Plates of Samanta Simhaditya. This inscription refers to Dwaraka as the capital of the western coast of Saurashtra and still more important, states that Sri Krishna lived here. The establishment of one of the four of his pithas at Dwaraka by Sankaracharya attests to the great religious sanctity the place must have attained by the eighth century A.D.

Dr. S R Rao has written: "The discovery of the legendary city of Dwaraka which is said to have been founded by Sri Krishna, is an important landmark in the history of India. It has set to rest the doubts expressed by historians about the historicity of Mahabharata and the very existence of Dwaraka city. It has greatly narrowed the gap in Indian history by establishing the continuity of the Indian civilization from the Vedic Age to the present day."

Here is a report about the latest excavations done by Dr. S.R. Rao of the Marine Archaeology Unit of the National Institute of Oceanography of India. Following this report are a few articles and images.

The Towering personality of Lord Krishna

Sri Krishna is a towering personality and it is difficult to separate the human aspect of his life from the divine in Krishna concept. He is a grand mystery and everyone has tried to understand him in his own way, according to his spiritual light or vision. The Yogis considered him to be the absolute truth, the Gopis the highest object of love, the warriors as an ideal hero, Kamsa as an object of fear and Sisupala as an object of hate.

Whether one thinks of him as an object of love or hate, one attains him. Yudhishthira attained him through friendship and Narada by devotion. Krishna is the embodiment of intellectual and spiritual glory. No other single idea has so much influenced the course of India's religion, philosophy, art and literature as the life and personality of Krishna. As a child he was wonderful, as a youth he was physically most perfect and beautiful. as an intellectual he was the very embodiment of Vedic scholarship and his teachings in the Gita embody the immortal message of desire less action, knowledge and single-minded devotion. "As a fighter he was without rival, as a statesman most shrewd, as a social thinker very liberal, as a teacher the most eloquent, as a friend never failing, and as a householder the most idea." It is with his help that the Pandavas were able to overcome all opponents and win the battle of Mahabharata.

In the words of **Annie Wood Besant** (1847-1933) was an active socialist on the executive committee of the Fabian Society along with George Bernard Shaw. "He (Krishna) is so fundamentally the God, who is human in everything, who bends in human sympathy over the cradle of the babe, who sympathizes with the play of the youth, who is the friend of the lover, the blesser of the bridegroom and the bride, who smiles on the young mother when her first born lies in her arms, everywhere the God of love and human happiness; what wonder that his winsome grace has fascinated the hearts of men."

(source: **Discourses on Hindu Avataras - By Annie Wood Besant**).



Krishna-Kanhiya

*(source: **[Annals and Antiquities of Rajasthan: or the Central and Western Rajput States of India](#) - By Colonel James Tod**).*

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Sister Nivedita - **Margaret Noble** (1867-1911 wrote: "**The Grand Personality that towers over Kurukshetra** and enunciates the body of doctrines which all India knew....to be the core of **dharma** combines within himself the divinity of the Indian Shiva, the virility of the Greek Heracles, the simplicity of the Judian Christ, the tenderness of the Buddha, the calm, austerity and learning of any teacher of the Upanishads."

It is however, essential to note that the Mahabharata itself treats Krishna both as a God and as a man, so does its essential part of the Gita. (IX. II).

Megasthenes, the Greek ambassador in the court of Chandragupta Maurya (4th century B.C) makes the first reference to the deification of Vasudeva. He says that Heracles (who is closest to Krishna-Vasudeva) was held in high regard by the Sourasenoi (Surasenas) who possessed two large cities namely Methora (Mathura) and Cleisobora (Krishnapura, that is Vraja and Vrindavana). Apart from references by Megasthenes to the deification of Krishna-Vasudeva, Buddhist texts mention the existence of shrines dedicated to Vasudeva (Krishna) and Baladeva (Balarama).

Heliodorus, the son of Dia (Dion), a resident of Taxila had come to Besnagar as an envoy of the Greek king Antalikata (Antialkidas) to the court of Kasiputra Bhagabhadra during his 14th regnal year. Antialkidas is placed between 175-135 B.C. The Greek king Agathocles (2nd century B. C) was also devoted to the Bhagavata cult. The figures of Krishna and Balarama are shown on his coins found in the excavations at Al-Khanuram in Afghanistan.



Stambha or the column had been erected in BC 113 by Heliodorus, a Greek ambassador to India, a devotee of Krishna/Vasudeva at Videsha. Heliodorus' Column publicly acknowledged in the most conspicuous way that Vasudeva, or Krishna, as the "God of gods."

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1) Trini amutapadani‹[su] anuthitani 2) nayamti svaga damo chago apramado "Three immortal precepts (footsteps)... when practiced lead to heaven-self-restraint, charity, consciousness." From this **inscription** it is clear Heliodorus was a Vaisnava, a devotee of Visnu. He also had written on his column's inscription that "Three immortal precepts when practiced lead to heaven–self-restraint, charity, and conscientiousness." These three virtues appear in the exact same order in the great epic - **The Mahabharata**. (For more refer to **The Heliodorus Column - gosai.com**).

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The column was ordered by Heliodurus, a Greek or Greek-named envoy of the Indo-Bactrian king, Antialkidas. He came to the court of King Kasiputra Bhagabhadra, the ruler of the Besnagar area, from Taxila. **To celebrate his conversion into Hinduism a pillar was erected which is dedicated to Lord Vishnu. Heliodorus calls himself a devotee of Krishna/Vasudeva, one of the names of Visnu.** Such offerings were common in fulfillment of religious vows (thus 'votive' offerings) at that time. This same column has survived to the present, and is one of the primary pieces of evidence used to prove the existence of Vasudeva-Krishna (Krishna-Balarama) worship in the pre-Christian era. On the column erected in Besnagar in central India near Vidisha, north of Madhyapradesh State, at 113 BC (sometimes also dated 140/150 BC)

he calls himself a worshiper of Vasudeva (Vishnu). This is the first known record that other than Indian-born person became a follower of Vishnu (Vaishnava).

"This Garuda-column of Vasudeva (Visnu), the god of gods, was erected here by Heliodorus, a worshiper of Visnu, the son of Dion, and an inhabitant of Taxila, who came as Greek ambassador from the Great King Antialkidas to King Kasiputra Bhagabhadra, the savior, then reigning prosperously in the fourteenth year of his kingship." (Transliteration and translation of this ancient Brahmi inscription was published in the Journal of the Royal Asiatic Society (London: JRAS, Pub., 1909, pp. 1053-54.)

Dr. S. Radhakrishan wrote: "The Bhagavad Gita is "both metaphysics and ethics brahmavidya and yogasastra, the science of reality and the art of union with reality. The truths of spirit can be apprehended only by those who prepare themselves for their reception by rigorous disciplines"

Dwaraka had found a place in the texts on grammar, for **Panini, the great grammarian**, refers to Cakragirti, which is identified with Cakratirtha at the mouth of the river Gomati where Dwaraka is situated. The durgavidhana and durganivesa prakaranas of the **Arthasastra of Kautilya** prescribe the layout of a city. The description of Dwaraka in the Mahabharata and Jnata-dharma-katha as large, well-fortified and prosperous due to sea trade confirms hat it was a port city.

(source: **The Lost City of Dvaraka - By S. R. Rao** ISBN 8186471480 p. 1 -25).

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Dwaraka – The Importance of Heritage

Dwaraka has a special importance as one of the major Hindu pilgrim place, known as the capital of **Lord Krishna's Kingdom.** It is also an important historical monument. The region of the west coast, where Krishna was to settle the Yadavas was full of flowering and fruit-bearing trees. Here grew the nagacampas, grapes, coconut trees and many others. It was the land of the hunter Ekalavya. Dronacarya had also lived here. Krishna decided to built a new city here and laid the foundation at an auspicious moment. He named the new city Dvaravati. Much later the **poet Magha** in his Sisupalavadha, sarga2, describes in slokas 31 onwards, the city of Dwaraka, sloka 33 can be translated:

"The yellow glitter of the golden fort of the city in the sea throwing yellow light all round looked as if the flames of vadavagni came out tearing asunder the sea."

Literary texts like the **Mahabharata, Harivamsha, Sijupdlavadha and Puranas** contain traditions about foundation of Dwaraka, its planning and glory. Before the legendary city of Dwaraka was discovered some scholars were of the view that the Mahabharata being only a myth it would be futile to look for the remains of Dwaraka and that too in the sea. Others held that the Mahabharata battle was a family feud exaggerated into a war.



The Mahabharat war at Kurukshetra with Krishna as the charioteer to Arjuna.

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Excavations done by Dr. S. R. Rao at Dwaraka prove that the descriptions as found in these texts are not to be discarded as fanciful but are to be treated as based on actualities as seen by their authors. **The architecture of the old Dwaraka of Shri Krishna is majestic and wonderful.** The great poet Premanand has in his "Sudama Charit" described its splendid beauty and majesty. Dwaraka is mentioned as Golden City in **Shrimad Bhagvad Gita, Skand Purana, Vishnu Purana and also in Harivansha and Mahabharat.**

Dwaraka on mainland which was one of the busiest ports of the Mahabharata Period met a sudden end due to the fury of the sea. After the Mahabharata War Krishna lived for 36 years at Dwaraka. At the end, the Vrshnis, Bhojas and Satvatas destroyed themselves in a fratricidal feud at Prabhasa but Krishna did not interfere to save them. The portends of destruction seen by Sri Krishna who advised immediate evacuation of Dwarakaare stated in Bhagavata Purana. Dwaraka abandoned by Hari (Krishna) was swallowed by the sea. The submergence took place immediately after Sri Krishna departed from the world.

Construction of Dwaraka

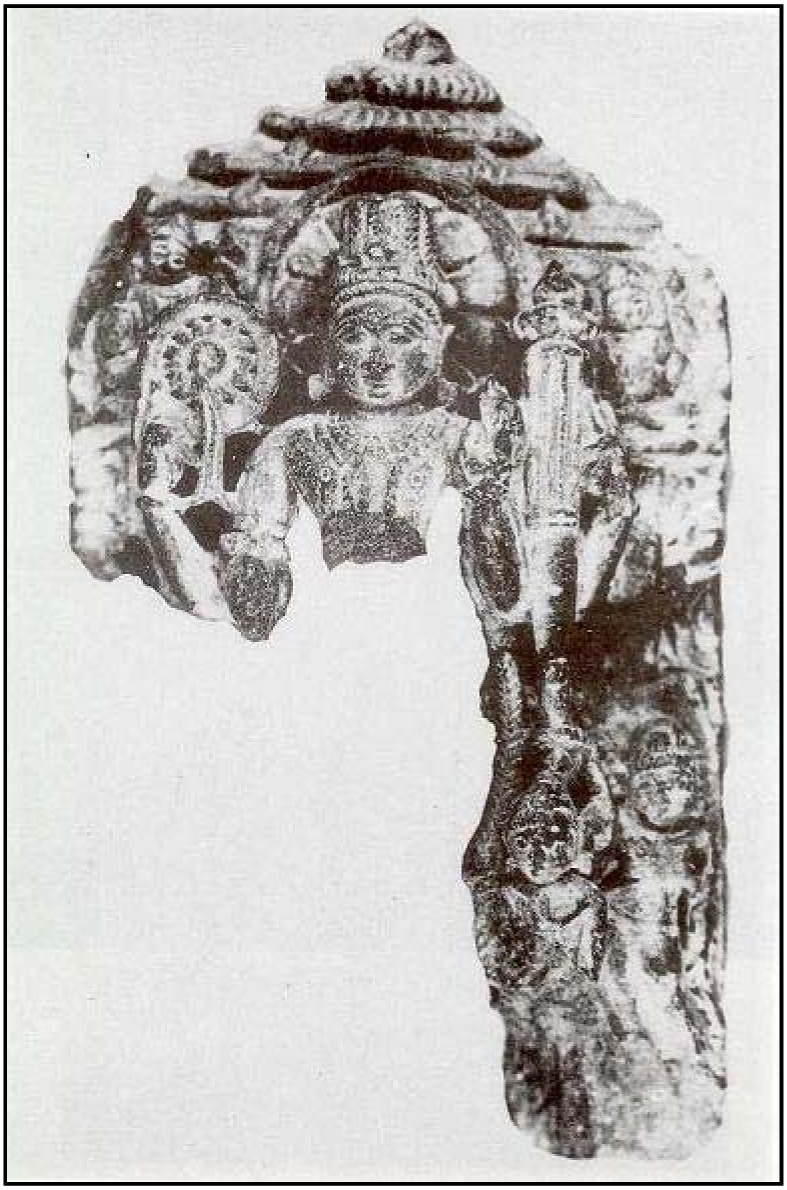
Interesting descriptions about its construction are found in **Puranas**.

"Fearing attack from Jarasangh and Kaalayvan on Mathura, Shri Krishna and Yadavas left Mathura and arrived at the coast of Saurashtra. They decided to build their capital in the coastal region and invoke the Vishwakarma the deity of construction. However, Vishwakarma says that the task can be completed only if Samudradev, the Lord of the sea provided some land. Shri Krishna worshipped Samudradev, who was pleased and gave them land measuring 12 yojans and the Lord vishwakarma build Dwaraka, a "city in gold".

This beautiful city was also known as Dwaramati, Dwarawati and Kushsthali. Another story says that at the time of the death of Shri Krishna, who was hit by the arrow of a hunter near Somnath at Bhalka Tirth,

Dwaraka disappeared in the sea.

The information and material secured through underwater excavation off Dwaraka corroborates with the references to the City of Dwaraka, made in the Great Epic Mahabharata and various other Sanskrit literary works. In **Mahabharata,** there is a specific account about the submerging of Dwaraka, by the sea which reads thus:



Sculpture of Vishnu from onshore excavation, Dwaraka.

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"The sea, which had been beating against the shores, suddenly broke the boundary that was imposed on it by nature. The sea rushed into the city. It coursed through the streets of the beautiful city. The sea covered up everything in the city. Even as they were all looking, Arjuna saw the beautiful buildings becoming submerged one by one. Arjuna took a last look at the mansion of Krishna. It was soon covered by the sea. In a matter of a few moments it was all over. The sea had now become as placid as a lake. There was no trace of the beautiful city which had been the favourite haunt of all the Pandavas. Dwaraka was just a name; just a memory."

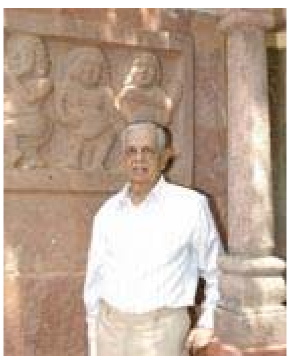
The importance of the discovery of Dwaraka lies not merely in providing archaeological evidence needed for corroborating the traditional account of the submergence of Dwaraka but also indirectly fixing the date of the

Mahabharata which is a landmark in Indian history. The Thermoluminiscence date of the pottery from Bet Dwaraka which is also connected with the Krishna legend is 3520 years Before Present. Identical pottery is found in the submerged city of Dwaraka. Thus the results have proved that the account in **Mahabharata** as to the existence of a beautiful capital city of Dwaraka of Sri Krishna was not a mere figment of imagination but it did exist.

Besides the sea-ports, there were renowned cities which were washed away by the rivers on whose banks they were situated. We may cite here the case of Hastinapura and Pataliputra, situated on the bank of the river Ganga and falling victims to flood-fury. The Mahabharata mentions that Hastinapura was washed away by the Ganga and consequently the Pandavas had to migrate to Kaugdmbi. Pataliputra which was the premier city of the land (agranag-ara) and the test of the excellence of all the cities (samasta-nagarf-nikasdyamand) in the words of Dandin, the author of the DaSakumaracharita, later became the worst victim of inundation. The submerged parts of these cities are to be treated as protected monuments and great treasures of our ancient heritage. If Dwaraka excavations throw a flood of light on the history of the city which was associated with the life events of Krishna, the under-water excavations of Ayodhya situated on the bank of the river Sarayu might yield valuable information about the historicity of Rama, his age and contemporary urban status.

(**note:** Lord Krishna was born at midnight on Friday July 27, 3112 BCE. This date and time has been calculated by astronomers on the basis of the planetary positions on that day recorded by Sage Vyasa. Mahabharata War took place on November 22, 3067 BCE. The Bhagavad Gita was compiled around 500 BCE. - source: **The Hindu Mind - By Bansi Pandit**).

Marine archaeology is a new subject and a little-explored one, mainly due to the lack of funds, scientific and other necessary equipment and even trained divers, besides a dearth of qualified marine archaeologists.



A pioneer in this field is **Dr S R Rao**, formerly of the Archaeological Survey of India (ASI) and now with the National Institute of Oceanography in Goa. With all the existing limitations, he has done considerable work in the Bet Dwaraka region, where he found an entire submerged city, with rubble and masonry structures, several shell and pottery items and seals. The Mahabharata and Harivamsha describe Krishna,s capital Dwaraka and how it was submerged by the sea in great detail, a description that coincides in many ways with what the divers found. **Unfortunately, the doubting Thomases of our historical world, a school of Indian historians who regard Indian literature as, myth do not want to acknowledge this interpretation, in case it gives credence to the story of Krishna, whose capital was submerged by the sea.** It is ridiculous not to correlate archaeology and literature. Mythology is, the science of primitive man, his manner of explaining the universe. Records of natural phenomena and historical events ˜ invasions, migrations, etc. ˜ are stored as myths. If literature and archaeology had not been correlated, we would never have known the history of ancient Greece. **And how many people are aware of the fact that the only (ancient) temple for Matsya ˜ Vishnu's incarnation at the time of the great flood ˜ is to be found at Shankhodhara in Bet Dwaraka.**

(source: **Marine archaeology and the study of the past - By Nanditha Krishn -** newindpress.com).

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Further Excavations of the Submerged City of Dwaraka - By S.R. Rao - Recent Advances in Marine Archaeology

(Proceedings of Second Indian Conference of Marine Archaelogy of Indian Ocean countries.Jan1990) Published for the Society for Marine Archaeology National Inst. of Oceanography India. 1991

Since 1983 the Marine Archaeology Unit of the National Institute of Oceanography is engaged in the offshore exploration and excavation of the legendary city of Dvaraka in the coastal waters of Dwaraka in Gujarat. Brief accounts of the findings of the underwater search for the lost city have appeared in **Progress and Prospects of Marine Archaeology in India, 1987, Marine Archaeology of Indian Ocean Countries, 1988, 40 years of Research - A CSIR Overview, 1988 and Journal of Marine Archaeology, 1990.** The present paper deals with the more significant results of further excavations in 1988 and 1989 and discusses archaeological and literary evidence for the identification of the port city of Dvaraka of the protohistoric period. It also draws attention to the scientific data available from the underwater excavations in the Arabian Sea and the Gulf of Kutch.



A brief account of the discovery of the submerged city of Dwaraka of Mahabarata fame and the salient features of the structures exposed as a result of underwater excavation con-ducted at Dwaraka and Bet Dwaraka by the Marine Archaeology Unit of the National Institute of Oceanography under the direction of the author from 1983 to 1987 appeared in 1988 (Rao, S.R. 1988, 47-53). Offshore exploration of the legen-dary city at Dwaraka was resumed in 1988 and continued through 1990, further seaward of the **Temple of Samudranardyana (Sea God)** at Dwaraka with a view to trace the plan and extent of the port-city and the purpose of the massive stone walls built on the banks of ancient Gomati. It was also necessary to ascertain whether its architectural features were in conformation with the description of the city of Dwaraka given in the epic Mahabharata. A second object was to obtain more corroborative evidence for reclamation referred to in the epic. Thirdly, the nick point where the ancient Gomati river joined the sea had to be determined. Lastly, the cause of submergence of the city was another problem that needed further investigation.

Onshore and offshore excavation in the island of Bet Dwaraka which, according to tradition, was the resort of Sri Krishna was resumed in November, 1987 and continued through 1988. The main objective was to trace the landward extension of the submerged protohistoric township near Balapur Bay where, in the intertidal zone a submerged wall had been traced in the earlier expedition (Rao, S. R. 1988, 49).

Marine Archaeological expedition at Bet Dwaraka

The trenches dug by the Public Works Department in the 'Talao' area near Balapur village for building an earthen embankment were examined, but no remains of any protohis-toric settlement came to light confirming thereby that there was no landward extension of'the ancient town. Most part of the ancient township was swallowed by the sea and the mud flats of Balapur extending over I km seaward had buried the ancient relics. One Trench (A) to the south of the Old Cus-tom House, and the other itrench (Al) in the intertidal zone at the toot of the Custom House mound were sunk to estab-lish the sequential relationship between the two sectors of habitation. (Fig. 1) The short duration of 3 or 4 hours at low tide when land was exposed near the shore, rendered excavation in ::Iavev deposit very difficult. Even so, a rubble foundation, 35 cm broad, and a few sherds of a large storage jar lying on the floor of the house were exposed in Trench (Al). Several worked columella of conch shell found lying in a line suggested that the house belonged to a shell-worker. Excava-tion had to be abandoned after digging to a depth of 20 cm because of high water table in lowest tide also. Trench Al was however extended on the west and the extension was marked XA1, but no structure came to light. Layer I of trench Al is surface humus, layer 2 consists of fine grained silty sand mixed with shingle and layer 2A, where shells and pottery are found, is darkish clay. No pottery was found in layers 2 and 2A of XA I.

A trench '2 x 2 m was laid above the rain gully in the Custori-. House mound to ascertain the cultural sequence. In all, 10 layers were distinguished. Layers I to 4 upto lm depth yielded Muslim glazed ware and Ted ware of early medieval period. In Layers 5 and 6 in 1-1.3m depth the Red Polished Ware assignable to the first five centuries of the Christian era was found. One sherd inscribed with the letter *sya* meaning I of in Brahmi characters of the lst-2nd century A.D. was recovered Layers 8-10 yielded a few sherds of the Lustrous Red Ware and coarse red ware of the post-Harappan phase. Natural soil could not be reached. A large number of shell bangles and a couple of worked columella were found in the medieval and early historic deposits. A bead of li3h bone is the only find from the post-Harappan deposit. It was decided to postpone to a later date the excavation of the intertidal zone and- the mound further north of the earthen embank-ment of the Talao where Late Harappan pottery has been found.

Massive stone protection wall-cum-pier in BDJ VIII

In the course of exploration of the near shore and intertidal zones south of Balapur Bay on 4th January, 1988 Mr Rajan, diver-archaeologist and Mr Sirsath, photographer discovered a massive rubble wall exposed in lowest low tide and the site has been designated as BDK Vill (Pi. 18-19). The wall remains submerged at high tide under a column of 2 in water above its top. Excavation was conducted on both the sides of the eastern arm of this structure on the 9th and 10th January in order to expose to full extent the height of the structure and determine ' the nature and purpose of constructing such a large enclosure which is 558 m in its peripheral length. (Fig.2)



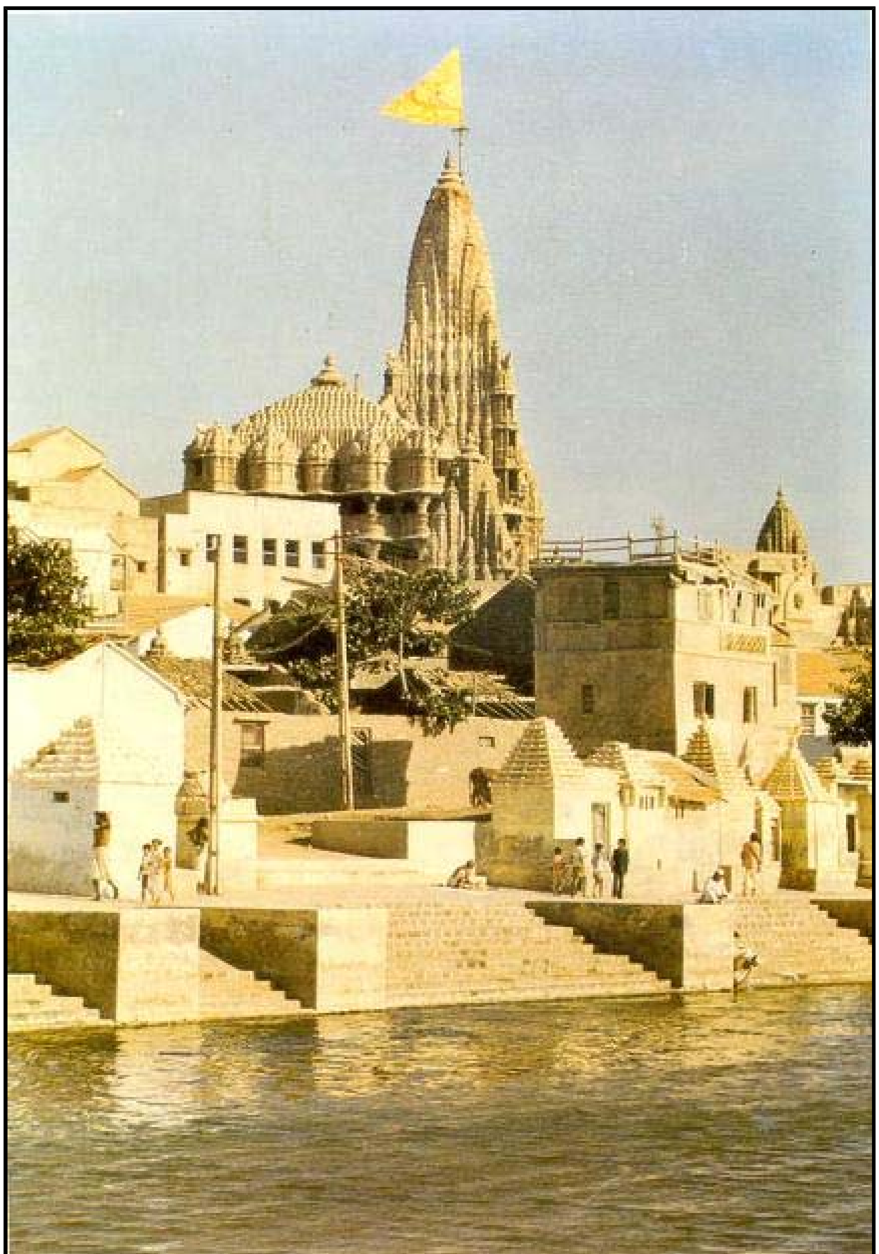
Trenches measuring 1 x 1.2 m were laid on its southern and northern faces. In all, 9 courses of dressed and undressed stones, of which 4 courses are covered by silty clay deposit were traced The wall was constructed on the bed rock. The stone masonry is heavily incrusted with barnacles and other sea organisms. It is very difficult to remove the incrustation with-out chiselling it. Originally the wall must have been atleast 2.5 to 3 m high. Presently it is only 1.5 m in height. The enclosure wall is an irregular hexagon on plan. An interesting feature of construction is the use of wedge-shaped blocks of stone for the shell, while the core is made up of rubble-filling. That the structure is man-made becomes apparent from the use of dressed stones closely laid and also from the box technique of construction. The thickness of the wall at the base is 2.5m while the extant tapering top is 1.5 to 2m thick. The pottery found in the trench is coarse grey ware but heavily rolled resulting in the disappearance of the slip and decoration if any. Only one sherd of the sturdy red ware of the post-Harap-pan phase was found in the extremely small trench. Provision-ally the structure is datable to 15th century B.C. on the basis of the sturdy red ware. Within the enclosure there must have been very important public buildings - may be

warehouses and other structures relating to shipping, for, not far from here are two rock-cut stipways for launching boats. The massive protection wall could have also served as a pier.

(Artwork courtesy of The Bhaktivedanta Book Trust International, Inc. www.krishna.com).

Dwaraka

The Research Vessel *Vedhavati* arrived on 31st December at Dwaraka duly equipped with diving gear, echosounder, heavy compressor, airlift etc. For the next three days Sri. Srinivasa Bandodkar, Chief-diver-photographer and other divers and diver trainees searched for and cleared the sub-merged structures of the ancient city exposed in the earlier expeditions. They were found partly disturbed and partly covered by sediments and vegetation. Swells and currents had disturbed a few blocks of the top courses of walls. They were photographed and marked by fresh buoys. New areas beyond 500 m seaward of the Samudrandrayana temple were explored and the thick growth of vegetation on ancient build-ings were removed. On 3rd January a small stone structure was found 200 m north of buoy 35, and the overburden of 2-3 m thickness was airlifted before exposing the topmost course of dressed stones. Lying nearby is a partly damaged bastion which is semi-circular in plan (PI. 20). The dressed stones used in its construction are I ' -2 m long 0.3 m thick. A lunate-shaped dressed block appears to be the *chandrtdild* (moonstone of a temple).



Dwarakadish temple on the river Gomati, Dwaraka

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Two stone walls, one each near buoys 40 and 41, were laid bare (PI. 21-24). The stones used in the construction are I to 2 m long, 0.5 to 0.7 m wide and 0.3 m thick. All structures near here arc gridded and their position is fixed by sextant. Excavation in layer 3 yielded a sherd of a miniature bowl with everted rim in Lustrous Red Ware of Rangpur III type. The slip has how-ever completely disappeared and the core of the fabric has a pitted surface due to wave action. The sea became choppy and the currents strong from 15th to 21st January and the boats were heavily rolling. In an attempt to reach the shore the crew of the dingy was thrown out by heavy breakers but there was no serious injury to anyone. Underwater explora-tion was suspended for 3 days and limited search was underta-ken next 3 days. In the solstice (14th January) arbital move-ments seem to be responsible for the abnormal roughness of the sea with waves breaking 3ni high near buoy 19 and causing considerable damage to ancient structures in the sea bed. Taking advantage of the lowest tide - 0.12 (Okha) on 21st January the sea bed of nearshore zone front Samudra-narayana Temple to the Light House was surveyed. Some well dressed architectural members including a semicircular moonstone *(chandrafila)* of a public building were exposed 30m seaward of Samudrandrayana indicating the existence of an earlier temple. Two rock-cut channels were also expo-sed to the north of Samudranar5yana. A few iron rings fixed in the wavecut bench at the foot of Samudrandrayana indicated that small boats could be ferried through the rock-cut channels from the sea and river channel and secured to mooring rings in the early centuries of the Christian era.



A pier-like structure was exposed on the left batik of the channel opposite buoy 35 and the construction suggests that it could be used as a jetty or quay on the river bank, for several triangular and prismatic stone anchors were found lying nearby. Further seaward a large area was searched manually and buoys 41 to 54 were placed to indicate the location of structures or anchors. On the left bank 3 anchors were found near buoy 53, one each near buoys 50 and 51 -and three more near buoy 55. Trench 15 was laid near buoy 53. Airlifting was done near buoy 54 for collecting samples. Layer 1 consisted of fine sand; layer 2 was slightly coarse sand, and layer 3 con-sisted of coral and shingle covering bed rock. The total thickness of sediment is I in. A slierd of a large sturdy jar and stein of a dish-on-stand were recovered from layer 3. Two bastions were exposed near buoy 59 on the right bank and Trench 12 was sunk here for obtaining stratigraphic evidence and pot-tery for determining tile age of the structures. Stone anchors found near buoys 45, 46, 47, 48 and 51 have been documented. A large single-holed semispherical stone base of a flag post (Fig. 3) was found *in situ* near buoy 48. It is 53 cm in diameter at the base and the height is 30 cm.

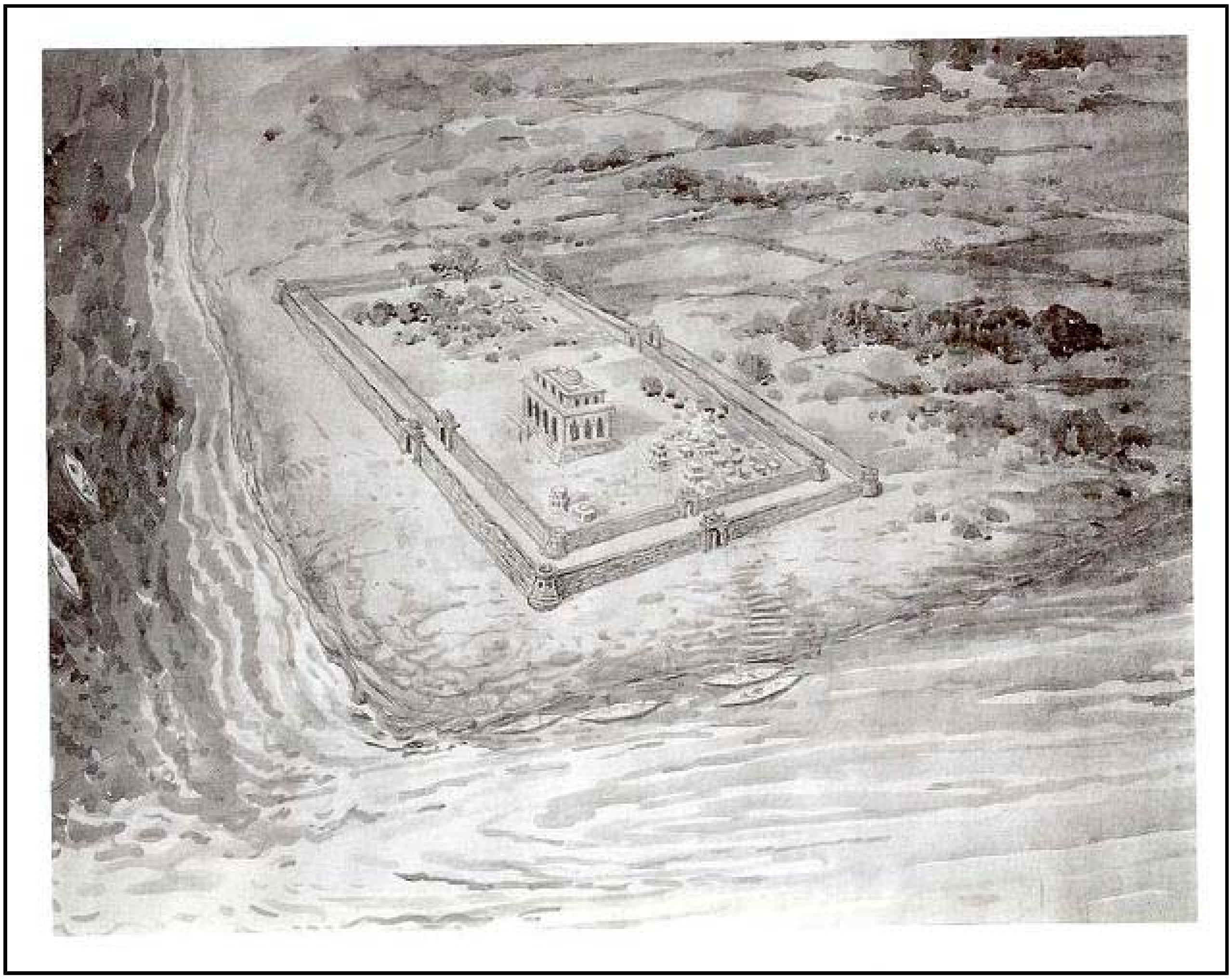
The larger triangular 3-lioled anchors are 63 to 95 cm in length, 43 to 50 cm broad at the base and 25 to 29 cm at the top (Fig. 4). The prismatic anchors are 1.2 to 2.3 m long, 33 cm broad at the base and are tapering at the top.

Excavation near buoy 35 yielded a copper *Iota* and a white marble statue with broken legs, but the rest of the body is missing. A pedestal of black stone with 4 pointed feet for em-bedding in the earth mty be an altar and it is doubtful if it was used as quern because there is no depression caused by rubbing Fartlier away near buoy 55 on the left bink a trench (15)was sunk and the sediments were removed through fanning action. It is here that a copper bell and brass parts of what looks like a miniature cliariot (PI. 26) were recovered.

The perforated arches might have supported a canopy of a wagon type chariot. As reverting was known to the Harap-pans it is no wonder if the metalsmith of protohistoric Dwaraka could also revet the bars and drive holes in the brass-like metal. The metal objects of the Dwaraka chariot are found to be made of brass. Unfortunately very little information is available on the antiquity of brass before 300 B.C. at Taxila and at Prakash in the late phase of NBP. The brass from Prakash is either copper-Zinc alloy (17.75% Zinc, remainder copper) or leaded brass (25.86% Zn, 8.34% Ph and remain-der copper). Lead was used in Lothal in 2000 B.C. as can be seen from two lead pieces one containing 91.42% and the other 99.54% pure. The sleeved axe of Lothal contains 96.27 copper, and 2.51% lead, while the grooved rod contains 57.75 copper, 9.02 tin and 3.31%. The advanced metal technol-ogy can be inferred from the use of iron stakes in Bet Dwaraka to which reference is made in the *Mahabharata.* Ancient Indian steel dates back to 600 B.C. at Rajghat (Bharadwaj 1984, 143), but iron technology was developed by 1500 B.C. at Dwaraka in Gujarat and

at Gufkrol in Kashmir (A.K. Sharma in this volume).

The presence of several structural remains between buoys 51 and 55 and also between 51 and 53 necessitated gridding the entire area for purposes of preparing the site plan of the township. Further west near buoy 59 a stone pillar with a square base and cylindrical shaft was found in the seabed. It is indicative of the fact that a public building of religious or secular importance existed here. Two triangular anchors were found near buoy 58 and a single-holed anchor was traced near buoy 53.



Artist's view of ancient fortified Dwaraka in Kusasthali

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In the absence of Mini Ranger III needed for very accurate fixing of positions, the sextafit was used and checked with the distances between structures measured manually. For instance, buoy 53 is about 1200 m from Samudrandrdyana and the bastion of inner gateway (str. 1) at buoy 35 is 200 m sea-ward of buoy 8 which itself is 200 m seaward of Samud-randrdyana. The bastion of the outer gateway is near buov 59. The position of buoys especially those marking bastions, gate-ways and protection walls had to be rechecked subsequently with the help of Mini Ranger III.

Two coils of steel wire lost by a boat in comparatively recent times were found near buoy 35. As they were heavily damaged their retrieval was not attempted. A large prismatic anchor 137 cm long was recovered from the station marked by buoy 46. Rajan took soundings at 50 m intervals along the banks of the Gomati channel and across it also for studying the gradient and width of the channel, but these had to be further checked with the echosounder readings at closer intervals.

Expedition 1989-90:

The main purpose of the expedition was to determine the limits of the submerged city and the nick point where the Gomati joined the sea 3500 years ago when Dwaraka was built. This could be achieved by echo-sounding, side scan sonar and shallow seismic profiling surveys Which could indicate anamolies and provide the bathymetric data. Simultaneously through optical and manual surveys the anamolies could be examined to distinguish man-made constructions from natural formations. It was also felt necessary to fix precisely the position of structures already discovered and determine the course of the ancient channel of Gomati river. The profiles would help to establish the shifting of the flow channel if any. The area covered in the course of the survey is 5 x 6 km upto 25 m depth so as to include a 'spit' referred to by Pathak (Pathak *et al* 1988, 58-62).



The MFV Sea Master and Sharda Devi were engaged for exploration and survey. A dingy with outboard engine ferried between the main boats and shore. At three locations namely A4, A5 and A3 along the right bank of submerged channel of Gomati anchors were found.

Southward of A5 a stone pillar and bastion were -located at the station P which is gridded. At 60' southwest of Dwdrkddhish-Samudran5r5yana transit line a bastion in situ (S4), a fallen bastion (S3) (PI. 24), a disturbed wall (PI. 25) and a large stone slab (S4) were found. Further south of S4 is another bastion (S2). These structures are in 7 m depth. Towards the west several anchors were discovered at stations A2, A8 and All, in 8m depth. Heavy growth of vegetation on the bastions and walls had to be cleared care-fully before photographing and plotting them. A very interesting feature of the masonry is the L-shaped joints in setting heavy dressed blocks of stone for constructing bastions in high energy zone (PI. 28). Even so a couple of bastions have collapsed, but others in deeper waters namely low energy zone are in situ. Three groups of structures at S2 were grid-ded. A spherical anchor with 2 holes is recorded at A12, about 70' NW of the grid. The following is the resume of anchors and structural remains found in the course of the present expedition:

Al fragmentary anchor

A2, A3, A8, A9, A10, All, A13 prismatic anchors
'A7 and A12 triangular anchors St, S3 wall
S2 bastion (fallen), S9 bastion in situ

Others S4 to S8 and S10 to 13 are dislodged architectural members, mainly large dressed blocks. Two iron anchors were found -near A13. One of them is 1.5m long and has 5 arms.

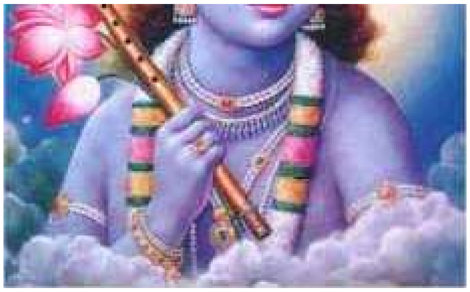
Geophysical Survey - a summazy of the results of Geophysical survey carried out by Vora's team has been received. The salient points of observation and recommendations of the team are mentioned briefly below (Fig. 5).

High resolution Marine Geological and Geophysical Sur-veys carried out off Dwaraka for marine archaeological pur-pose was aimed at finding direct or indirect evidences of the existence of relics of sunken ships and submerged ports beyond the area already surveyed by MAU. Another objec-tive was to suggest places for diving based on the data collected.

The surveys were carried out in December 1989 in 2 to 22 m water depth over an area of 5 x 2 km by echosounding, side scan sonar and shallow seismic profiling (Fig. 5); scale adopted was 1:5000.



The survey area was divided into two parts, north and south for convenience. In the northern part from Rupen port to Dwaraka Light House, 45 lines perpen-dicular to the shore were surveyed while south of Dwaraka Light House 22 lines parallel to shore were surveyed. The results of the survey indicated extension of Gomati for about 1.5 km in NE-SW direction and its channel is about 400 m wide. Apart from this channel, other submerged drainage systems were also noticed. Other Geomorphic features present in the area include scarps, terraces and pinnacles. Sonographs collected from the area show large tonal variations through-out the area which



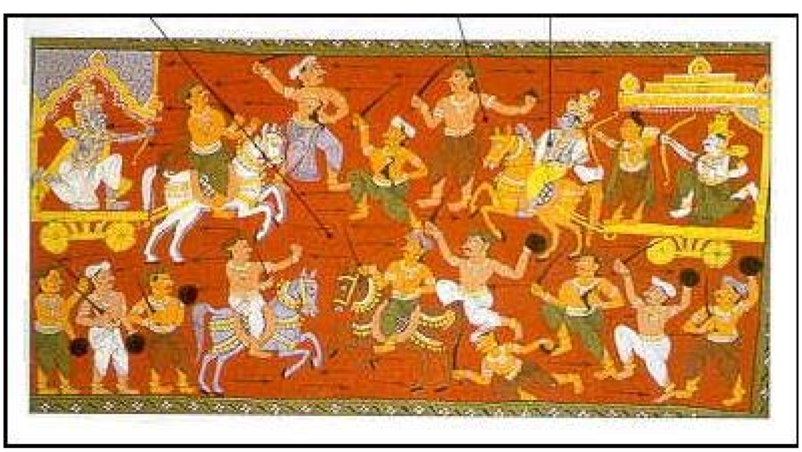
includes furrows of various sizes and directions, and. at times ripples, boulders etc. The channels of Gomati as revealed by echograms are highly significant. The present channel along the Gomati Ghat was not the original course of the river 4000 years ago. It was to the south of temple of Samudranardyana and the channel was wider. The river seems to have joined the sea through more than one channel and the structures so far traced lie along the central channel. Nearshore, the submerged Gomati bed shows a deep wide symmetrical V-shaped channel, either side of which is at the same elevation. A small channel formation is seen to the south. Bending of contours in the area in more than 13 m water depth towards shore in southwest direction indicates a deposital phase, while in lesser contours there is a strong erosional activity. The result is that many structures built of smaller fractional blocks are destroyed in shallower waters, while those built of heavier blocks to serve as piers, wharf, protection walls and jetty are only partly destroyed and buried under I to 2 m thick sediment especially beyond 12 m water depth.

Though there are some anomalies present on the sea floor nothing more could be said about them until divers verified whether they were natural phenomena or man-made objects. Shallow seismic profiles showed no penetration in the area. However five locations were given to the diving team of MAU for direct inspection. At one such point a large iron anchor was found by diver archaeologists. Accurate position fixing of the five points with mini ranger had to be postponed to the next season as the sea became rough, but the position of some of the marker buoys, where structures were discovered by MAU was fixed with sextant. The map obtained from Dwaraka Municipality did not show accurately the present shore line and it is to be surveyed and redrawn for position fixing. On the left bank of Gomati the divers uncovered three arms of a large rectangular structure (Str. 5-6) and a corner bastion (Str 7) at buoys 68-69 and 70. Opposite the inner gate way on the right bank, the width of one of the submerged channels of. Gomati is 170 m. Further westward of structure 7, four 3-holed anchors were exposed.

On January 14, 1989 the wave cut bench and iron rings fixed in it were exposed a few metres seaward of SN at lowest low tide. A mooring pillar and a. fragmentary deity in black stone were recoverd from the rocky bed near the Light house.

On January 21, two rock cut channels meant for sluicing small boats were exposed to view between SN and Light House. The Iron rings and rock-cut channels belong to period 11, while the protection walls, and enclosures on either bank at buoy 35 and extending 500 m scawdfd belong to period 1. The farthest point of structural activity so far traced is about 1.2 km seaward of SN, but a plan of the city can be made out upto 800 m. A pier - like structure on the left bank where a plat-form which could be used for loading and unloading exists might have been the jetty for smaller boats. The terraced top of an escarpment nearly 1.5 km seaward of SN was the main anchorage for the ocean going vessels. That there existed a port-installation here is indicated by the collapsed building blocks lying scattered at the foot of the scarp but further examination of this scarp and another rock standing high further northwest will have to be made by divers for preparing the ancient limit of the port-town.

Discussion



Dwaraka was a city-state extending upto Bet Dwaraka (Sankhodhara) in the north and Okhamadhi in the south. Eastward it extended upto Pindara. The 30 to 40 meter-high hill on the eastern flank of Sankhodhara may be the Raivataka referred to in the *Mahabharata 2 . The general layout of the city of Dwaraka described in ancient texts agrees with that of the submerged city discovered by MAU. Four enclosures are laid bare; each one had one or two gateways (Fig. 6). The port Aramda (Arambhadvdra)* on way to Bet Dwaraka was the first gateway in the outer fortifications. The bastions flanking gateways of submerged Dwaraka resemble those of Kusinagara and Sravasti carved on the

Gateways of Sanchi Stupa. The *prasada* referred to in the epic must be the high fort walls of Dwaraka, a part of which is extant. The epic says that flags were flying in the city of Dwaraka. This can be corroborated by the stone bases of flag posts found in the sea bed excavation. Umashankar Joshi is of the view that *antardvipa* in the region of Kugasthali referred to in the *Mahabharata* must be Bet Dwaraka (Sankhodhara). The *Bhagavata Purana* says that before leaving his mortal frame Sri Krsna put the ladies and children in boats and sent them to Sankhodhara. Hirananda Sastry also identified the *antardvipa of Mahabharata* with Bet Dwaraka.

The buildings built of smaller fraction stone blocks are razed to the ground leaving only small portions of the thick fort walls, bastions and protection walls (built with massive stones) which are too heavy to be moved by tides and cur-rents. From the structural remains in Dwaraka and Bet Dwaraka waters, it is possible to visualise that the city-ports were large and well planned.
Every significant antiquity that corroborates a statement of the *Harivamsa* is the seal bearing the motif of a 3-headed animal representing the bull, unicorn and goat. The *HarivamSa* says that every citizen of Dwaraka had to carry a *mudra* as a mark of identifications The seal *(mudra)* found in the excavation belongs to 15th-16th century B.C.

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Legend of Dwaraka - By T. R. Gopaalakrushnan

Krishna- the protector of Mathura, the lord of Dwaraka and the reciter of the Bhagwad Gita on the battlefield of Kurukshetra-is one of the most enduring legends of India. Are Krishna and Dwar-aka actual historical entities? For a majority of Indians, the answer is an unequivocal yes. Some archaeologists and historians too are now willing to accept that the common man's faith does have a basis in fact.

The strongest archaeological support comes from the structures discovered under the sea-bed off the coast of Dwaraka in Gujarat by the pioneering team led by Dr S.R. Rao, one of India's most respected archaelogists. An emeritus scientist at the marine archaeology unit of the National Institute of Oceanography, Rao has excavated a large number of Harappan sites including the port city of Lothal in Gujarat. In his book The Lost City of Dwaraka (Aditya Prakashan, Rs 1500), published in 1999 he writes about his undersea finds: "The discovery is an important landmark in the history of India. It has set to rest the doubts expressed by historians about the historicity of Mahabharata and the very existence of Dwaraka city. It has greatly narrowed the gap in Indian history by establishing the continuity of the Indian civilisation from the Vedic Age to the present day."



No one has so influenced the course of India's religion, philosophy, art and literature as Krishna.

(Artwork courtesy of The Bhaktivedanta Book Trust International, Inc. www.krishna.com).

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But there are archaeological finds that do attest to Krishna as a historical figure. For instance excavations in Bedsa (near Vidisha in Madhya Pradesh) have unearthed the remains of a temple of 300 BC in which Krishna (Vasudeva) and Balarama (Samkarshana) are identified from their flagstaff. Krishna's son Pradyumna, grandson, Aniruddha and another Yadava hero, Satyaki, have also been identified.

A more recent historical record, dated 574 AD, occurs in what are called the Palitana plates of Samanta Simhaditya. This inscription refers to Dwaraka as the capital of the western coast of Saurashtra and states that Krishna lived here. **No one has so influenced the course of India's religion, philosophy, art and literature as Krishna.** Traditional belief is that Krishna lived in Dwaraka at the end of the Dwapara Yuga. Dwaraka, in fact, is considered one of the seven holiest and most ancient Indian cities. The others are Ayodhya, Mathura, Haridwar, Varanasi, Kanchi and Ujjain, which together are known as Mokshada-that which leads to salvation.

According to Hindu historical tradition, Kali Yuga began with the death of Krishna more than 5,000 years ago. The Puranas are emphatic on the cultural degradation that set in after the Mahabharata war, which is seen as one of the most important turning points in ancient Indian history. Krishna, according to traditional belief, participated in that transition.

"Krishna very much existed in flesh, blood and bones," said Madhav Acharya, archaeologist at the Haryana archaeological department. "It is difficult, if not impossible, for a thing like the Mahabharata to be believed till today in the same spirit and faith unless there is some truth to the story. And that truth is the power struggle, and the main characters. One of them was Krishna. The power struggle is not a myth. If the heart of the story is to be believed as a historical event, then Krishna too should be seen as a historical character."

For more of this article, please go to the link given below.
(source: **Legend of Dwaraka - By T.R. Gopaalakrushnan - the-week.com** - cover story June 1 2003).

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Underwater museum, in Dwaraka yet to surface

India Abroad News Service BANGALORE - Nearly two decades after marine archeologists found the lost city of Dwaraka off the coast of Gujarat the state government continues to drag its feet on a proposal to establish the world's first underwater museum to view the remains of the city submerged in the Arabian Sea.



The proposal for the museum, submitted by the Marine Archeology Center of the National Institute of Oceanography (NIO) in Goa, involves laying a submarine acrylic tube through which visitors can view through glass windows the ruins of the city said to have been be ruled by Sri Krishna, 3,500 years ago.An alternative suggestion is to have acrylic wells, to be accessed through boats, from which the remains can be viewed. Another proposal that remains on paper is for setting up a marine archeology museum of Dwaraka antiquities found in the sea.

Discovered in 1981, the well-fortified township of Dwaraka extended more than half a mile from the shore and was built in six sectors along the banks of a river before it became submerged. The findings are of immense cultural and religious importance to India.

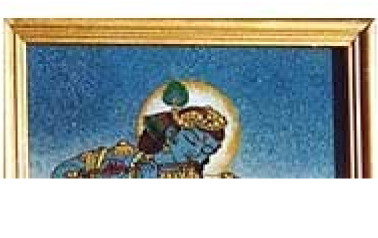
"The search for the lost city has been going on since 1930," S.R. Rao, former adviser to the NIO who is still actively involved in the excavations, told *India Abroad.* "It is only after marine archaeologists started exploring the seabed near modem Dwaraka from 1981 that the structural remains of the city were found."

Rao said that if a fraction of the funds spent on land archeology were made available for under-water archaeology, more light could be thrown on Dwaraka, which had much archeological signifi-cance because it was built during the second urbanization that occurred in India after the Indus Valley civilization in northwestern India. Dwaraka's existence disproves the belief held by Western archeologists that there was no urbanization in the Indian subcontinent from the period between 1700 B.C. (Indus Valley) and 550 B.C. (advent of Buddhism). As no information was available about that period, they had labeled it the Dark Period.

Among the objects unearthed that proved Dwaraka's connection with the Mahabharata epic was a sea engraved with the image of a three-headed animal. The epic mentions such a seal given to the citizens of Dwaraka as a proof of identity when the city was threatened by King Jarasandha of the powerful Magadh kingdom (now Bihar). The foundation of boulders on which the city's walls were erected proves that the land was reclaimed from the sea about 3,600 years ago. The epic has references to such reclamation activity at Dwaraka. Seven islands mentioned in it were also discovered submerged in the Arabian Sea.

Pottery, which has been established by thermoluminiscence tests to be 3,528 years old and carrying inscriptions in late Indus Valley civilization script; iron stakes and triangular three-holed anchors discovered here find mention in the Mahabharata.

"The findings in Dwaraka and archeological evidence found compatible with the Mahabharata tradition remove the lingering doubt about the historicity of the Mahabharata," said Rao. 'We would say Krishna definitely existed." What is needed, he added, is the political will to reconstruct the cultural history of the Vedic and epic periods of northern India.



The maritime museums at sites of ' wrecks and submerged ports are absolutely essential, and portable antiquities should be conserved properly, lie emphasized. If the proposal to have a maritime museum is accepted by the Gujarat government, it would be the first of its kind in India, he pointed out. Recounting the start of exploration for Dwaraka, Rao said, "We carried out the original survey with just four scuba divers,



while the operation called for the services of around 200 divers and other staff." But for the work to progress now, more equipment is needed, besides funds and time, he warned, adding:

"We need two barges, one mounted with a crate, and equipment such as an airlift. We need 30 or 40 divers and engineers. The work should go on for at least six months and cannot be halt-ed midway."

According to Rao, the project would need at least Rs. 20 million ($476,000).Funds would have to be provided by the Gujarat government and its tourism department Other possible sources are the federal Department of Ocean Development (DOD), which organizes big projects such as expeditions to Antartica, the Department of Science and Technology (DST) and the Council for Scientific and Industrial Research (CSIR), which have not contribute much, Rao said.

***"The findings in Dwaraka and archeological evidence found compatible with the Mahabharata tradition remove the lingering doubt about the historicity of the Mahabharata. We would say that Krishna definitely existed"* - S.R. Rao.**

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Dwaraka museum in Gujarat likely to throw light on Indus Valley civilization

The proposed underwater museum at Dwaraka, the first of its kind in the world, and a marine archaeology museum will throw more light on the Indus Valley civilisation and enable researchers to peep into the history of the lost city of the Mahabharata era.



The Marine Archaeology Centre and the National Institute of Oceanography have jointly submitted a proposal with technical details for the preservation of the site to the Gujarat government. The Gujarat Government Tourism Corporation has held meetings with a foreign expert for promoting Dwaraka as a tourist destination, according to S R Rao, the president of the Society for Marine Archaeology.

The project envisages an estimated investment of over Rs 20 million. Unfortunately no follow-up action is forthcoming. The entire nation and even foreign countries are anxiously waiting for the preservation of the submerged city, which is not only of historical importance, but also of emotional interest since its founder was Lord Krishna, Rao said.

As per the proposal, marine acrylic tubes would be laid through which visitors could pass and view the remains of the historic city from windows. Acrylic walls could also be made which could be accessed by boats. Dwaraka, the submerged city in the Arabian Sea, off the Gujarat coast, is well connected with the other parts of the country. While most of Dwaraka is submerged in the Arabian Sea, tourist are attracted to the places which are not submerged -- Nageshwar Mahadev, Rukmani *mandir*, Shardapath and Dwarakashish temple. The mainland city was well-planned and boasted a good harbour. The full plan of the submerged city on the mainland has been ascertained and plotted on the basis of the individual structures discovered in six fortified sectors extending up to one km from the shore.

Dwaraka has been mentioned as golden city in the **Shrimad Bhagwat Gita, Skand Purana, Vishnu Purana** and also in ***Harivansh*** and **Mahabharata**. It is rated as the seven most ancient cities in the country. UNI

(source: **Rediff on the Net**).

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Dwarka remains may soon be protected as underwater world cultural heritage site - By Rajesh Kumar

New Delhi, July 13: Old shipwrecks -- like that of the Titanic -- which have been lying buried under the sea

with their precious treasure along with the submerged city of Dwaraka off the Gujarat coast, for centuries, could soon vie for the status of an underwater world cultural heritage site.



Over 200 experts from 84 countries, who gathered under the aegis of UNESCO ir to examine a draft convention on the issue, unanimously agreed that underwater heritage was in urgent need of protection from destruction and pillaging.

Currently, structures or properties lying under water can not claim the status of cultural heritage. The absence of any protective mechanism has left them open to pillaging and destruction by treasure hunters and curious deep-sea divers. The experts agreed that the definition of cultural heritage needed to be expanded in order to protect underwater heritage as well.

The submerged city of Dwarka is believed to be an important site having both historical and cultural value for India. Legend has it that the remains -- the wall of a city is clearly visible while the rest is yet to be discovered -- are in fact, that of the ancient city of Dwarka mentioned in stories of Lord Krishna.

The Gujarat government and the Archaeological Survey of India (ASI) are currently toying with the idea of creating a museum and an underwater viewing gallery once the structures have been protected. After that, Dwarka could also stake the claim for the coveted underwater world heritage status, UNESCO's South-East Asia office here said.

Experts agreed that salvaging operations did tend to be a free for all. Robert Grenier, director of the International Committee on Underwater Cultural Heritage of the International Council On Monuments and Sites, said that while salvage action gave people freedom to look for things, it disregarded the aspect of preserving cultural heritage.

Several British and French ships laden with precious treasure that had sunk on their way across the Atlantic ocean during their voyages in the 18th century have been plundered by the sea pirates for valuables. In fact, some of the ships that were believed to be of immense historical and cultural value for future generations have been completely stripped off all their components by pirates for their antique value. ``With rapid advancement in technology, deep-sea diving and gaining access to heavy articles buried with the shipwrecks has become easy and affordable for pirates. In the absence of any effective protection, these properties of immense historical and cultural value are being looted and vandalised,'' an expert from Canada said.

The wrecks at Louisberg Park in Nova Scotia off the Canadian coast are held up as a fine example of how the under water cultural treasures can also be protected with help of legislation and political will, much like other structures of the same importance. The French Ministry of culture too has come out with a comprehensive background material on the underwater cultural heritage that needs protection. The document also cites relevant laws under which they can be protected and how.

Representatives of the United Nations Division of Ocean Affairs and Law of the Sea, the International Maritime Organisation, the International Seabed Authority and the World Underwater Federation, along with UNESCO, participated in the meeting.

(source: **http://www.indian-express.com/ie/daily/20000714/ina14051.html**).

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Dwarika - The Eternal City - By Brinda Ramesh

Dwarka has always been the most important pilgrimage centre on the western coast of India. Situated in Saurashtra, at a point where the Gomti river meets and Arabian sea, it has acquired multifarious names down the ages: Dwarka- the gateway to eternal happiness; Dwaravati, Swarnapuri - the city of gold, and Swarnadwarika, the golden gateway. The last three names derive from the fact that Dwarka, being the western gateway of India through which trade entered the country, was always prosperous and wealthy.

Ancient economics apart, Dwarka was and still remains a place of tremendous religious importance to Hindus. Legend associates it with Lord Krishna, who spent his early childhood and youth in Mathura, but then

he slew the mighty Kamsa. For this, he and his tribe of followers, the Yadavas, were attacked repeatedly by Kamsa's father-in-law Jarasandh. Tired of these repeated wars, Krishna migrated with his entire clan of Yadavas to Dwarka which was a much safer place.

In Dwarka, Krishna is supposed to have built a mighty kingdom on a site selected for him by Vishnu's learned 'vahan', Garud. The city he built is supposed to have extended over 104 kms. It was well fortified and surrounded by a moat, spanned by bridges, which were removed in the event of attack by an enemy. According to legend, the gods assisted Krishna in the construction of this magnificent city.

Archaeological excavations have unearthed artifacts that prove that modern Dwarka is the sixth settlement of the name on this site. The earlier cities have been, at various times, swallowed by the sea. The waves of the sea still lap the shores of this famous town, lending scenic beauty to this important pilgrimage destination.

The Dwarkadhish temple, dedicated to Lord Krishna, is the focal point of all pilgrimages. Parts of it date from the 12th-13th century and others from the 16th, but the *Jag Mandir*, its sanctum sanctorum, is supposed to be 2,500 years old. The hall in front is richly carved and supported by 60 massive pillars, each one hewn out of a single stone slab. Many of the sculptures date from the Maurya, Gupta and Chalukya periods. Some of the subjects are of Jaina and Buddhist origin. The temple is 157 feet high.



Another important pilgrimage site in the ancient city of Dwarka is Gomti ghat. The myth attached to the original temple says that it was built overnight at the instructions of Vajranabh, the great-grandson of Sri Krishna, by the divine craftsman Vishvakarma. Archaeologists are undecided about the date of construction of the temple that exists now, but it is generally believed that it was rebuilt in the 10th or 11th century A.D after the original temple was destroyed, probably during the Muslim invasions.

Most of the temples and pilgrimage spots around Dwarka are associated with Sri Krihsna and the Vaishnavite tradition. However, the temple of Somnath, which is not very far from this place, is dedicated to Siva as Nagnath or Nageshwar Mahadev, and enshrines one of the twelve 'Jyotirlingas' which according to the Puranas manifested themselves as columns of light in different parts of the country. The magnificent temple that stands there now is a replica of the original temple.

The 13th century Arab source refers to the glories of the temple thus: "Somnath - a celebrated city of India situated on the shore of the sea is washed by its waves. Among the wonders of that place was the temple in which was placed the idol called Somnat. This idol was in the middle of the temple, without anything to support it from below or to suspend it from above. It was held in the highest honour among the Hindus, and whoever beheld it floating in the air was struck with amazement..."

Dwarka also has the distinction of being one of the four seats or *matts* established by the Adi Shankaracharya in the 8th - 9th century A.D, The other three are Jyotirmath, Jagannath Puri and Sringeri. The *matt* in Dwarka, known as Sharda Peeth, carries out extensive research work in Sanskrit and is home to many renowned scholars.

This then is Dwarka, centre of religion, mythology, history and scholasticism, its shores everlastingly cleansed by the eternal seas.

(source: http://www.tourindia.com/htm/homepage.htm May 2001). (Artwork courtesy of The Bhaktivedanta Book Trust International, Inc. www.krishna.com).

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Dwarka site pre-dates civilization

An archaeological site, dating back to 7500 BC and older than hitherto oldest known human civilisations including those found in the Valley of Sumer, Harappa and Egypt, was discovered by a team of Indian marine archaeologists in the Gulf of Cambay off Gujarat coast.

"For India, it was the first time that such an important discovery was reported from near Dwaraka site, the off-shore region where underwater archeological exploration was in progress," Union Minister for Science and Technology Murli Manohar Joshi said at a crowded Press conference here on Wednesday.

The early civilisations known to mankind hitherto were in the Valley of Sumer around 3,500 BC, Egyptian Civilisation (3,000 BC) and Harappan (2,500 BC), explained Dr Joshi, adding that all the findings have been alongside a palaeolithic age river course traced upto nine km south of the Saurashtra coastline.

The antiquity of some of the artefacts, discovered by the National Institute of Ocean Technology (NIOT) which carried out a series of surveys in the area, from the site such as the wood log reflects a very ancient culture in the present Gulf of Cambay, which may have got submerged subsequently, Dr Joshi said.

Carbondating on the log, carried out by the Birbal Sahni Institute of Palaeobotany (BSIP) and the National Geophysical Research Institute (NGRI), suggested that it could belong to 7,500 BC and these settlements were probably the oldest neolithic sites discovered in the country, he said.

He said a multi-disciplinary team comprising of NIOT, National Institute of Oceanography, Archeological Survey of India, Physical Research Laboratory, Ahmedabad, BSIP, NGRI and specialists from universities were constituted to conduct further studies. The team would be provided with most modern equipment and infrastructure to carry out the studies, he said.

"Further investigation of this area was important as it might throw some light on the development of human civilisation, besides having a bearing on the Indian history," said Dr Joshi.

The recovery of remnants of wood logs by the NIOT was an indication of existence of a very ancient culture in the area which got subsequently submerged. The surveys had also revealed significant seismic activities and more studies were needed, Dr Joshi said.

Following the last year's discovery of indications of possible settlements, the NIOT scientists undertook a confirmatory survey in November using advanced marine underwater survey technologies with side scan sonar and sub-bottom profiler.

The materials collected at the site included artefacts, possible construction elements with holes and studs, pot shreds, beads, bones with significant signs of human activity in the area.

A detailed examination had revealed riverine conglomerates at a water depth of 30 to 40 m between 20 km west of Hazira near Surat.

Prof S N Rajguru, former Head of Department of Archaeology, Deccan College, Pune, who was also present, said the discovery could have been a coastline settlement when the sea level was low.

(source: **http://www.dailypioneer.com/secon2.asp?cat=\story6&d=FRONT_PAGE**).

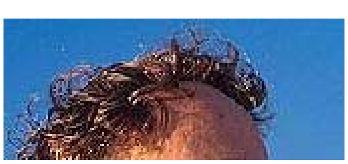
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The Flooding of Dwaraka and the descent of the Kali Yuga - By Graham Hancock

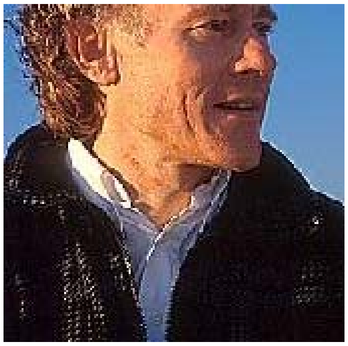
"On the same day that Krishna departed from the earth the powerful dark-bodied Kali Age descended. The oceans rose and submerged the whole of Dwaraka. "

- **Vishnu Purana** - volume 2, p. 785. Nag Publishers New Delhi 1989.

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Indian thought has traditionally regarded history and prehistory in cyclical rather than linear terms. In the West time is an arrow – we are born, we live, we die. But in India we die only to be reborn. Indeed, it is a deeply rooted idea in Indian spiritual traditions that the earth itself and all living creatures upon it are locked into an immense cosmic cycle of birth, growth, fruition, death, rebirth and renewal.



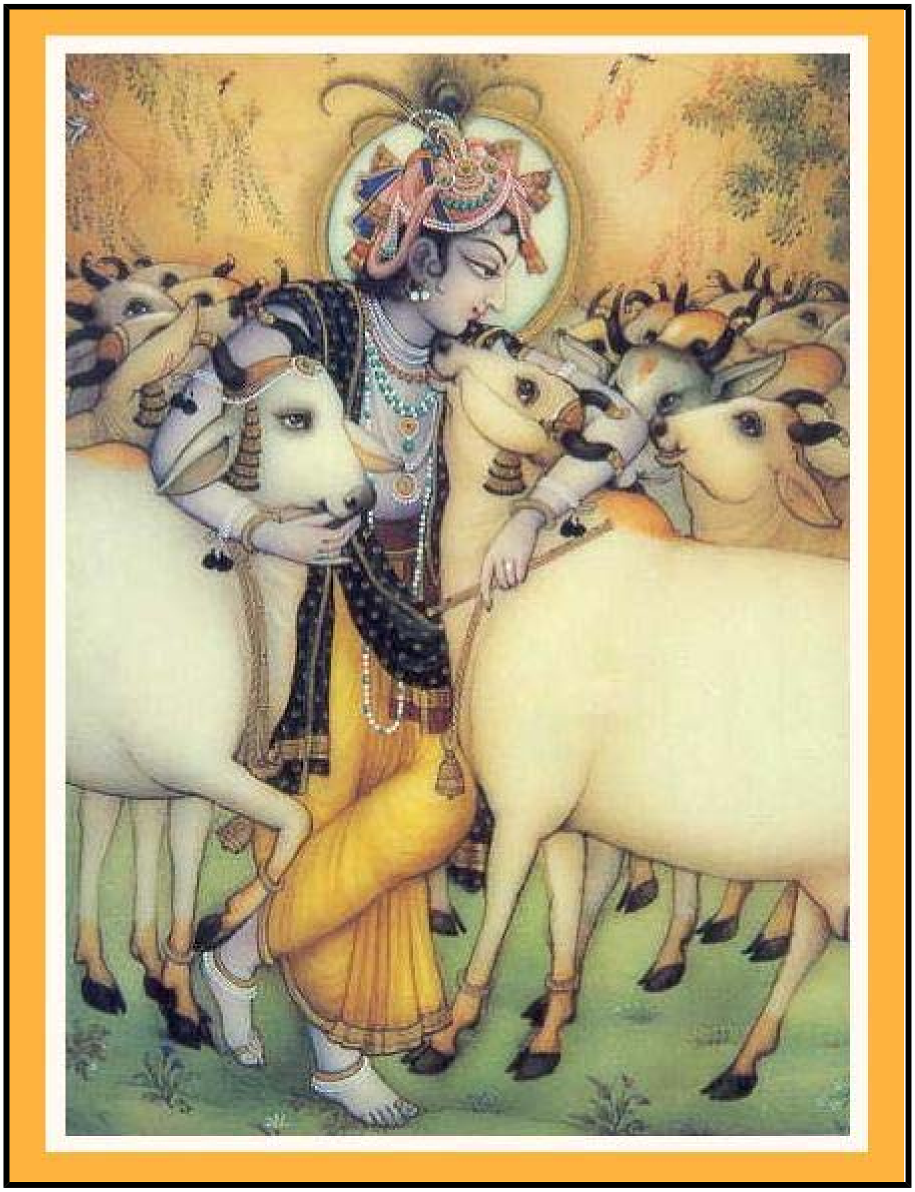
Even temples are reborn after they grow old to be used safely – through the simple expedient of reconstruction on the same site.

India conceives of four great epochs or 'world ages' of varying but enormous lengths: The Krita Yuga, the Treta Yuga, the Dvarpara Yuga and the Kali Yuga. At the end of each yuga a cataclysm, known as pralaya, engulfs the globe in fire or flood. Then from the ruins of the former age, like the Phoenix emerging from the ashes, the new age begins.

The story of Dwaraka is tightly intertwined with this scheme of things. Reported in the ancient Indian epic of the Mahabharata and in later sacred texts such as the Bhagvata Purana and the Vishnu Purana, it straddles two of the great world ages.

Towards the end of the most recent Dvarpara Yuga, the texts tells us, Dwaraka was a fabulous city founded on the north-west coast of India. Established and ruled over by Krishna, it was built on the site of an even earlier sacred city, Kususthali, on land that had been reclaimed from the sea: Krishna solicited a space of twelve furlongs from the ocean, and there he built the city of Dwaraka, defended by high ramparts. The gardens and the amenities of the city are praised, and we understand that it was a place of ritual and splendor.

Years later, however, as the Dvarpara Yuga comes to an end, Krishna is killed. The **Vishnu Purana** reports: "On the same day that Krishna departed from the earth the powerful dark-embodied Kali Age descended. The ocean rose and submerged the whole of Dwaraka.



The Vishnu Purana reports: "On the same day that Krishna departed from the earth the powerful dark-embodied Kali Age descended. The ocean rose and submerged the whole of Dwaraka.

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In Book X of the **Bhagvata Purana** we read how Krishna used 'his supernatural yogic powers', in a crisis of battle, to transfer all his people to Dwaraka where he could protect them from the enemy in 'a fortress inaccessible to human beings.'

"the lord caused a fortress constructed in the western sea. In the fortress he got built a city twelve yoganas (96 miles) in area and wonderful in every respect. The building of the city exhibited the expertise in architecture and the skill in masonry of Tvastr, the architect of the gods. The roads, quadrangles, streets and residential areas were constructed in conformity to the prescribed tenets of science of architecture pertaining to city building. In the city, gardens planted with celestial trees and creepers and wonderful parks were laid out. It was built with sky-scraping, gold-towered buildings and balconies of crystals. It had barns built of silver and brass which were adorned with gold pitchers. The houses therein were of gold and big emeralds."

(source: **Underground: The Mysterious Origins of Civilization – By Graham Hancock** p. 108 - 128).

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Preserve underwater cultural heritage of Dwarka, says expert NEW

Internationally renowned marine archaeologist Dr S R Rao today called for preservation of underwater cultural heritage, particularly the Dwarka city, believed to have been built by Lord Krishna in Gujarat.

Speaking at the 7th national conference on marine archaeology of Indian ocean countries at the National Institute of Oceanography (NIO), Dr Rao regretted that many of the archaeological remains excavated were not preserved for posterity by the agency conducting the excavation.

He pointed to the neglect of the excavated Harappan site of Kalibangan. The Lothal site was, however, preserved and a museum built for it, he added.

Most of the important underwater sites of Dwarka excavated by the NIO's Marine Archaeology Centre (MAC) with funds from the Council for Scientific and Industrial Research (CSIR), Department of Science and Technology and Archaeological Survey of India (ASI) should have been preserved by a competent agency, he said.

With neither the CSIR nor the ASI having expertise to undertake conservation of a submerged city, the octogenarian archaeologist said he had prepared a project report in consultation with a number of organisations and individuals including the Indian Navy, research foundations and underwater construction engineers.

On the controversy regarding date of submerged site of Dwarka near the Gomti river mouth in Arabian Sea, Dr Rao said the archaeologists could not arrive at the date in isolation, but relied on relative chronology such as pottery and the sea-level rise.

''We are of the view that Dwarka was submerged by tsunami-like high energy waves, pulling down heavy blocks of stone used in the construction of the structures. This must have also resulted in changing the course of the paleo channel of Gomti, as recorded by NIO maritime archaeologist K H Vora during recent studies,'' he said.

The reference to such a catastrophe was made in the Mahabharata and other epics which said Dwarka, built on mainland by Lord Krishna, was contemporary to Bet Dwarka (Kusasthali) that could be dated to 17th century BC, and this was later confirmed by scientists, he said.

Dr Rao said the three-holed triangular stone anchors found in large numbers in Dwarka waters suggested a continuity in evolution of the anchors in Lothal and Mohenjo-Daro, which had a single hole.

The Dwarka anchors of late Harappan phase are a couple of centuries older than the identical anchors of late Bronze Age used in Cyprus and Syria, he added. The two-day conference is being held under the aegis of the Society of Marine Archaeology at NIO.

(source: **Preserve underwater cultural heritage of Dwarka, says expert** and **Hinduism Today**).

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How marine archaeologists found Dwaraka – By V Gangadharan NEW

The submergence into the sea of the city of Dwaraka, vividly picturised in the great epic of Mahabaratha, is indeed true! A chance discovery made by a team of scientists, in the Gulf of Cambay region, establishes that the Mahabaratha story is not a myth. The rich city with fertile landscape and great rivers had indeed submerged into the seas several thousand years ago.

But before we get to the present, a bit of history is quite in order.

There is a vivid description in the Mausalaparvan of the Mahabaratha about the submergence of Dwaraka. The people of Dwaraka including Arjuna seemed to have witnessed strange things before its submergence in the sea. 'The event was preceded by the unabated rumbling noise of the earth throughout the day and night, birds screamed continuously, and heavy winds swept the land. The sea, which has been beating against the shores, suddenly broke the boundary that was imposed on it by nature. Huge tide with great height surrounded Dwaraka. The sea rushed into the city submerging beautiful buildings. The sea covered up everything and in a matter of few moments, there was no trace of the beautiful city.' It was something of an ancient tsunami.

And now the scientists at NIOT (National Institute of Ocean Technology, of the Department of Ocean Development) have established this. While working for British gas in the Gulf of Cambay region, a few years ago, the scientists of the NIOT, were stunned to see images of objects and things, completely alien to the marine domain. Immediately a

team swung into action and samples were collected and sent for analysis and dating (it is usually done to scientifically establish the antiquity of the excavated objects).

Samples collected include artefacts, wood pieces, pottery materials, hearth pieces, animal bones. They ere sent to Manipur University, Oxford University, London, Institute of Earth Sciences, Hanover, Germany for analysis and dating. **The results were astonishing. It was found beyond doubt that the samples belonged to a period varying from 7800 to 3000 years (BP) Before Present !**

The even more flooring discovery happened soon. NIOT, which carried outside scan and sub-bottom surveys in the year 2002-03, established beyond doubt the presence of two large palaeochannels (river channels which existed once and later submerged under the sea) in the Gulf of Cambay. Alluvium samples were collected from different locations in the areas of the palaeochannels by the gravity core and grab method.

Badrinarayanan, Marine Archaeologist and formerly coordinator for the project, says 'the most astonishing thing was that all of the crew-members, including the ship master who was a catholic, had dreams full of strange visions, on the night of discovery. We felt we had stumbled upon something great and unusual.'

The study of the samples under microscope revealed the occurrence of fragile and highly sensitive Ostracods (tiny marine and fresh water crustaceans with a shrimp-like body enclosed in a bivalve shell) overlain by regular marine fauna.

These results strongly indicated that the freshwater deposition which took place in this area was very much a part of the onshore land region and later submerged to the depths varying from 20 to 40 meters. The alluvium (fresh water sand) samples sent to the Earth Science Department, Manipur University for OSL (optically stimulated luminescence) dating gave the OSL determinant of 3000 years (BP) Before Present !

Prof. Gartia (The Journal of Indian Ocean Archaeology, No.2 of 2005, Pg.144) after conducting extensive investigations concluded that Gujarat region had experienced at least three large killer earthquakes about 1500, 3000 and 5000 years BP respectively. Geomorphological evidences also show beyond doubt that the North-Western part of the Indian landmass was seismically active during the last 10,000 years. These killer quakes are likely to have caused the shifting of the rivers and sea level fluctuation including the sinking of the legendary city of Dwaraka, capital of the Lord-King Krishna. **The discovery about the availability of fresh water from the now submerged major rivers along with other marine-archaeological evidences, corroborates the Mahabaratha reference that Dwaraka, the ancient city of Sri Krishna, lies under the great ocean !**

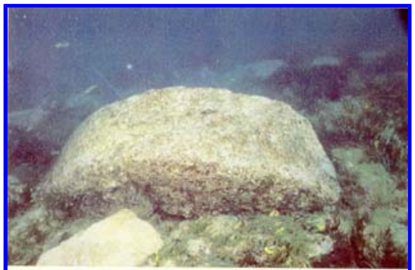
(source: **How marine archaeologists found Dwaraka – By V Gangadharan - newstodaynet.com**).

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4. Photos from Marine Excavations at Dwaraka

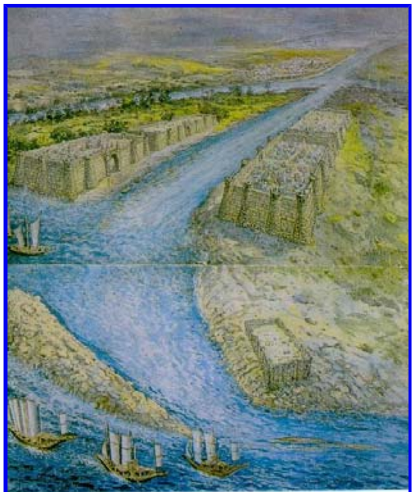
Click on the thumbnails to zoom in.



A circular bastion of submerged fort wall of Dvārakā.



A long wall plotted and photographed by diver-archaeologists.



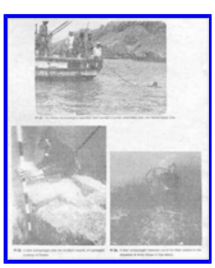
Harbour of ancient Dvārakā.

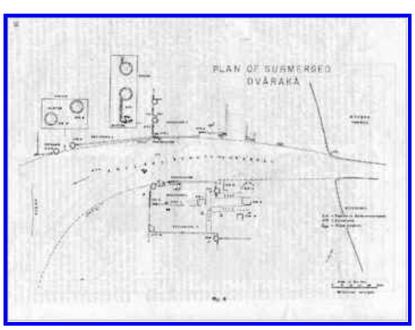


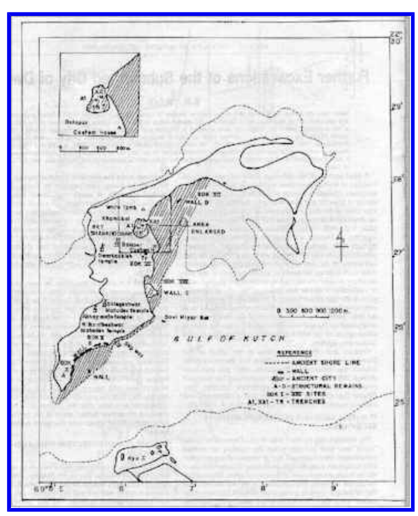
A prismatic stone anchor at buoys A-4–A-5, DWK.



Large bastion at buoy 8 in Zone 1, DWK.

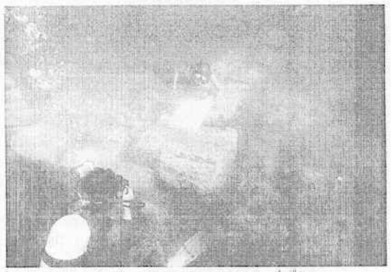




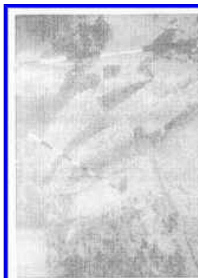




Pl 20. Dwarka: Bastion



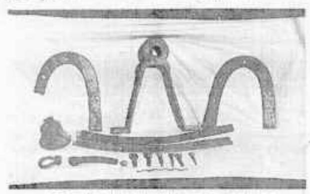
Pl 21. Dwarka: Wall





Pl 24. [illegible] Dwarka [illegible] submerged in the sea.

Pl 25. [illegible] Dwarka in the sea.



Pl 26. Dwarka: [illegible]

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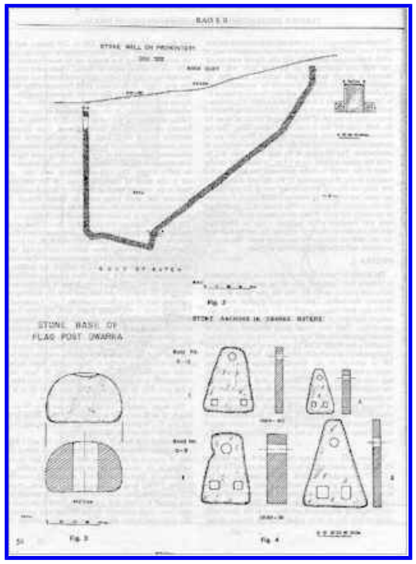


A bronze bell found in excavation near buoys 56–57, DWK.

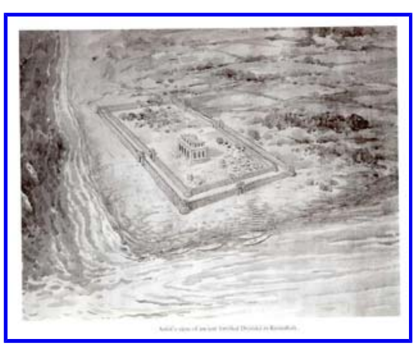


A marble statue of a deity (only feet are intact) in the trench near buoys 56–57, DWK.











A long wall between buoys A12 and S12, DWK.

Relevant Links and Books:
National Institute of Oceanography **http://www.nio.org/**
The Lost City of Dvaraka - By S.R. Rao
(S.R. Rao served the Archaeological Survey of India for over 32 years. He is the discoverer of a large number of Harappan sites including the port city of Lothal in Gujarat)

Excavations At Dwaarka - By Zainuddin Dawood Ansari and Madhukar Shripad Mate.

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Did You Know?

Masters of the Sea



Despite recent concerns about possibly losing caste from crossing the sea, history reveals India was the foremost maritime nation 2,000 years ago (meanwhile Europeans were still figuring out the Mediterranean Sea). **India's maritime history predates the birth of western civilization. The world's first tidal dock is believed to have been built at Lothal around 2300 BC during the Harappan civilization, near the present day Mangrol harbour on the Gujarat coast.**

It had colonies in Cambodia, Java, Bali, Philippines, Sumatra, Japan, China, Arabia, Egypt and more. Through Persians and Arabs, India traded with the Roman Empire. The Sanskrit text, **Yukti Kalpa Taru**, explains how to build ships, such as the one depicted in the ajanta caves. It gives minute details about ship types, sizes and materials, including suitability of different types of wood. The treatise also elaborately explains how to decorate and furnish ships so they're comfortable for passengers.

In ancient times the Indians excelled in shipbuilding and even the English, who were attentive to everything which related to naval architecture, found early Indian models worth copying. **The Indian vessels united elegance and utility, and were models of fine workmanship.**

Sir John Malcolm wrote :

"Indian vessels "are so admirably adapted to the purpose for which they are required that, not withstanding their superior science, Europeans were unable, during an intercourse with India for two centuries, to suggest or at least to bring into successful practice one improvement. "

(for more information please refer to chapter on **Hindu Culture**, **Suvarnabhumi and Seafaring**).

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Updated - September 7, 2005